Remarks/Arguments

Claims 1, 7, 8, 11, 17, 18, 21, 25, 32-34, 37, 39, 46-48, 51, 53, 57, 58, 60 and 61 have been amended. Claims 26 and 40 have been canceled without prejudice. Claims 62-66 have been added. Please charge any fees for the newly added claims or any other fees for entry of this Amendment to our Deposit Account 03-3415.

The Examiner has rejected applicants' claims 1, 7-11, 17-21, 24-28, 31-37, 39-42, 45-51, 53, 57-58 and 60-61 under 35 USC 103(a) as being unpatentable over the Black patent (U.S. Pat. No. 6,307,956) in view of the Yguerabide, et al. patent (U.S. Pat. No. 6,586,193) in further view of the Schmidt, et al. patent (U.S. Pat. No. 7,094,531) or the Lockhart, et al. patent (U.S. Pat. No. 6,344,316). Applicants have amended applicants' independent claims 1, 11, 21, 25, 37, 39, 51, 53, 57, 58, 60 and 61 and with respect to these claims, and their respective dependent claims, and newly added claims 62-66, the Examiner's rejection is respectfully traversed.

Applicants' independent claim 1 has been amended to better define applicants' invention. In particular, amended claim 1 recites a "system for issuing an authentication certificate used in personal authentication, comprising: reaction means for reacting a DNA array in which a plurality of DNA probes corresponding to plural kinds of genes are arranged in a predetermined order, with the gene obtained from a given person; storage means for registering the hybridization pattern obtained by said reaction means; issuing means for issuing an authentication certificate for certifying the person; and controlling means for executing a process comprising the steps of: (i) making said reaction means react the DNA array with a gene obtained from the given person to form a hybridization pattern; and

(ii) making said issuing means issue an authentication certificate by attaching the reacted DNA array obtained in the step (i) to a base of the authentication certificate; wherein a plurality of different DNA probes are arranged on the DNA array so that the DNA array presents a different hybridization pattern depending on a different personal DNA . Applicants other independent claims 11, 21, 25, 37, 39, 51, 53, 57, 58, 60 and 61 have all been similarly amended and applicants' newly added independent claim 64 has like features.

More particularly, the present invention is characterized by utilizing a DNA array for personal authentication, on which a plurality of different DNA probes are arranged so that the DNA array presents a different hybridization pattern depending on a different personal DNA. By virtue of this feature, authentication can be checked by the hybridization pattern, and therefore, the present invention can provide an ability for high credibility authentication without requiring a complicated analysis.

The Black patent teaches utilizing fingerprint or retina as biometric information for identity verification. Black also mentions the use of DNA as a biometric and states that "[c]hemical and biological sensors are required to perform multi-analyte measurements rapidly, accurately, and at increasingly lower cost" and further that "[a]rrays of immobilized single stranded DNA (ssDNA) probes, so-called DNA chips, are being used for genetic analysis for disease detection, toxicology, forensics, industrial processing, and environmental monitoring" (column, 25, lines 28-34). However, neither the aforesaid teachings nor any other teachings of the Black patent are a teaching or suggestion to use a DNA array for personal authentication, on which a plurality of different DNA probes are arranged so that the DNA array presents a different hybridization pattern depending on a different personal DNA.

Furthermore, the none of the teachings of the Yguerabide, et al. patent at column 11, lines 30-50, or at anywhere else in the patent, teach or suggest using a DNA array for personal authentication, on which a plurality of different DNA probes are arranged so that the DNA array presents a different hybridization pattern depending on a different personal DNA. Moreover, while applicants do not agree with the Examiner's arguments with respect to the Lockhart, et al. and Schmidt, et al. patents, applicants further submit that these patents do not teach or suggest use of a DNA array for personal authentication, on which a plurality of different DNA probes are arranged so that the DNA array presents a different hybridization pattern depending on a different personal DNA.

Additionally, the Lockhart, et al. and Schmidt, et al. patents teach DNA sequence identification which will require very complicated processing. This contrasts sharply with applicants' claimed invention in which personal authentication with a DNA array can be realized with lower computation load because of its characteristic feature of using a DNA array on which a plurality of different DNA probes are arranged so that the DNA array presents a different hybridization pattern depending on a different personal DNA.

Applicants' claimed invention thus patentably distinguishes over the combination of the Black, Yguerabide, et al., Lockhart, et al. and Schmidt, et al. patents.

In view of the above, it is submitted that applicants' claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration of the claims is

respectfully requested.

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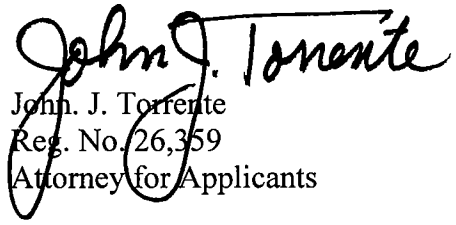
Respectfully submitted,



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